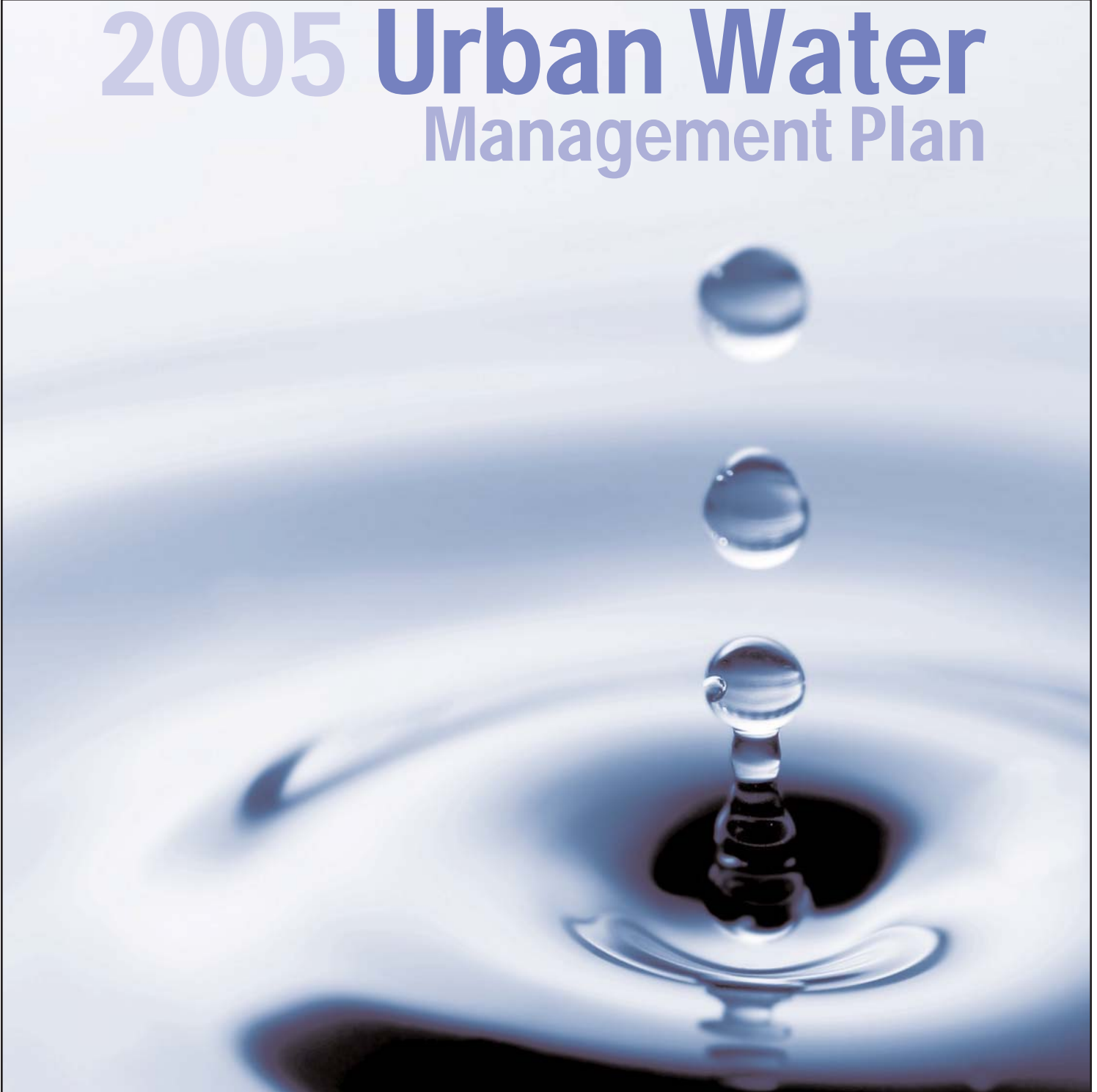




CITY OF MOUNTAIN VIEW

2005 Urban Water Management Plan



Adopted November 15, 2005

ACKNOWLEDGEMENTS

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TABLE OF CONTENTS

	<u>Page</u>
Executive Summary	i-v
Plan Preparation.....	1-6
Climate, Population and Land Use	7-10
Water Demand	11-28
Supply and Demand Comparison.....	29-36
Water Supply Reliability	37-42
Water Conservation.....	43-44
Water Shortage Contingency Plan.....	45-58
Catastrophic Supply Interruption Plan	59-60
Waste Water.....	61-62
Recycled Water.....	63-66

LIST OF APPENDICES

Appendix

BAWSCA Member Agencies.....	A
Public Outreach.....	B
Public Hearing Notices	C
Adopted City Council Resolution	D
2001 SCVWD Groundwater Management Plan	E
CUWCC Annual Best Management Practices Reports	F
Draft Water Conservation Ordinances	G
Recycled Water Ordinance	H
Water Supply Letter from the SCVWD	I
California Urban Water Management Plan Act	J
Glossary	K
Bibliography	L

Executive Summary

The City of Mountain View is dedicated to providing its residents, businesses and institutions with a reliable supply of high quality water. To ensure Mountain View continues to meet this goal, the City has prepared this Urban Water Management Plan (UWMP) to outline the City's current and future water needs, water conservation programs, water recycling projects and disaster and drought preparedness plans.

Each of these subjects are summarized below and described in further detail in the UWMP.

Mountain View's Water System

The City of Mountain View currently serves over 16,000 water connections representing the majority of Mountain View's 70,000 residents, businesses and institutions. The City operates and maintains water fluoridation facilities, seven potable water (drinking water) wells, one irrigation well and two water storage reservoirs, which have a total capacity of 6.7 million gallons. The City is also constructing two additional water storage reservoirs to bring the City's total storage capacity to 14 million gallons. Table A on the following page shows Mountain View's water usage by customer type. A map of Mountain View's service area is included as Figure 2 in Section 3 of this UWMP.

Mountain View's Water

The City receives most of its water from two wholesale water agencies, the San Francisco Public Utilities Commission (SFPUC) and Santa Clara Valley Water District (SCVWD). Table B on the following page details Mountain View's water supply.

Mountain View's Water, continued...

Table A: Water Use by Customer Type

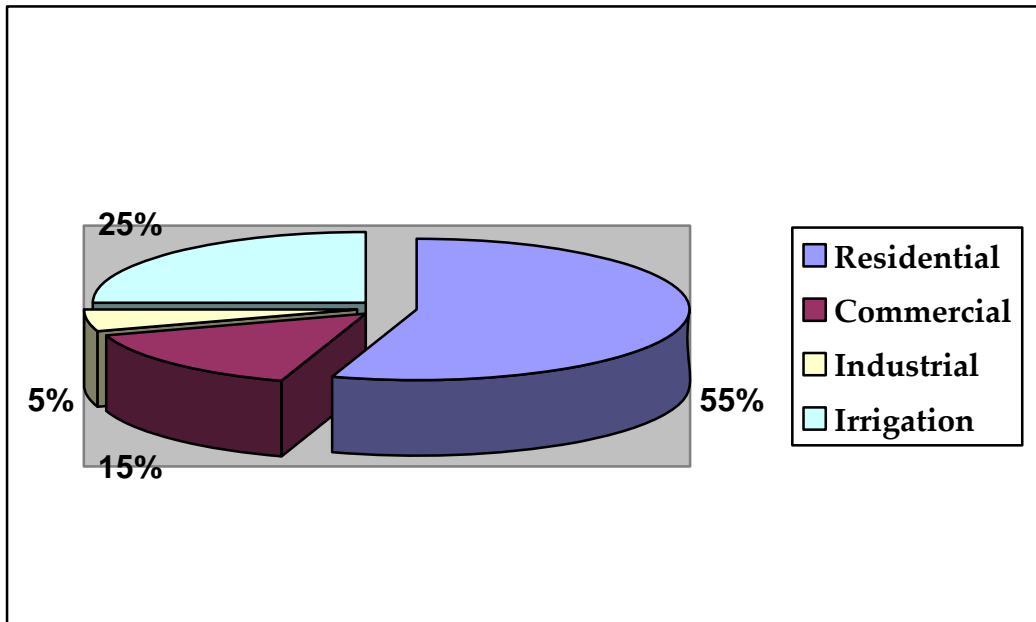
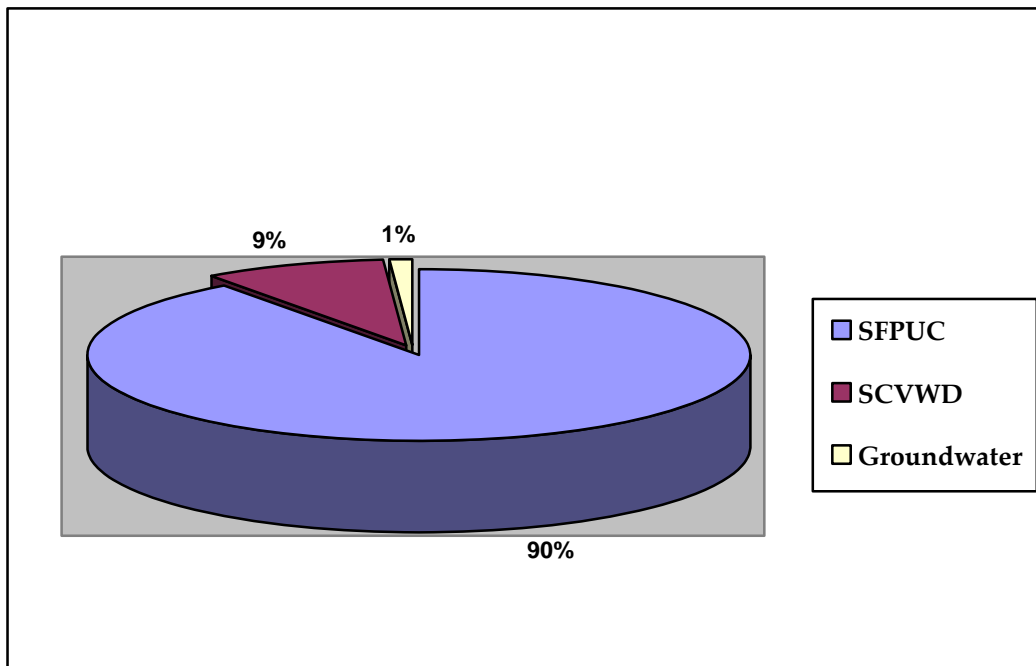


Table B: Mountain View's Water Supply



San Francisco Public Utilities Commission

The City receives approximately 90% of its water supply, an average of 11.3 million gallons per day (MGD), from the SFPUC. SFPUC water flows from the Sierra Nevada Mountains to Mountain View through the Hetch-Hetchy regional water system. The City has a contractual supply assurance from the SFPUC to provide the City with up to 13.6 MGD.

Santa Clara Valley Water District

The SCVWD supplies the City with approximately 9-10% of its water, an average of 1.2 MGD, through its water distribution system. The City's contract with the SCVWD provides for a 2 MGD supply assurance.

Groundwater

Mountain View also operates seven groundwater wells for supplemental and emergency water supply. The City also operates an irrigation well to supplement the use of freshwater and pond water at Shoreline Regional Park.

On average, approximately 1% or less of the City's water is supplied through these wells. Over the next 25 years, groundwater use is expected to increase to approximately 2%-3% of Mountain View's total water supply. The City has the ability to use groundwater to augment wholesale supply in the event of a water service disruption in one or both of the regional distribution systems.

Future Supply and Demand

Based on uniformly applied growth projections, information on planned development projects, recycled water projects and water conservation programs, the City has estimated its water demand will increase approximately 15% by the year 2030. This percentage increase is well within the existing supply capacity and long-term supply assurances provided to the City by the SFPUC and SCVWD.

Water Conservation

Water conservation is an important goal for the City of Mountain View and the City expects conservation programs to reduce water demands by 5 to 8 percent over the next 25 years. The City is also member of the California Urban Water Conservation Council and participates with the SCVWD in all water retailer conservation programs.

Water Conservation, continued...

These conservation programs include:

- Metering and Water Rates: The City meters all water connections and bills customers using a tiered water rate structure. In the tiered rate structure, the water rate increases with consumption, providing an economic incentive to conserve water.
- Residential Water Audits: Mountain View, in conjunction with the SCVWD, conducts audits of single and multi family residences and notifies residents of high water usage to help identify water loss due to leaking or defective pipes. On average, approximately 600 residential water audits are performed each year.
- Turf Audits: Free site evaluations and turf audits are available for business owners with more than one acre of landscaping. The program uses satellite technology and computer imaging to create water budgets for these customers. An average of 10 turf audits are performed every year.
- Plumbing Retrofits: This program provides economic incentives for residential and business owners who retrofit existing plumbing with high-efficiency fixtures. Low-flow showerheads, kitchen and bath faucet aerators and toilet leak detection tablets are available at no cost. For example, in the last five years, the City has distributed over 1,300 low-flow showerheads.
- Washing Machine Incentive Program: Mountain View's residential water customers can receive up to \$150 in rebates for the purchase of high-efficiency washing machines and up to \$350 for commercial machines. Over 1,200 washing machine rebates have been issued since 2001.

Water Recycling

The City is in the process of developing a recycled water system, in conjunction with the Palo Alto Regional Water Quality Control Plant and the City of Palo Alto. This project has the potential to offset irrigation water consumption in the City's North Bayshore Area. Once constructed, the City anticipates the recycled water system, at full utilization, could offset the City's demand for potable water by up to 10%.

Drought and Disaster Preparedness

Depending on the duration and severity of a drought or water shortage due to a natural disaster, the City will implement its water shortage contingency plan. This plan outlines actions to reduce water consumption in the event Mountain View's water supply is reduced by 10%, 25%, 40% and 50%.

Actions to be taken include:

- Reduced irrigation in City parks and on roadway landscapes
- Prohibition on filling new swimming pools or refilling existing swimming pools
- Deferral of landscape installation in new developments

Under the most severe conditions, the City would consider prohibitions on new development, discontinuance of all turf irrigation and mandatory water budgets for all water customers.

PS/PWK/904-12-05-05ES^

Section 1.1: Coordination With Other Agencies

Throughout the development of this Urban Water Management Plan (UWMP), Mountain View coordinated with numerous water agencies. Details of these efforts are outlined below.

Wholesale Water Suppliers

The City of Mountain View worked collaboratively with its two wholesale water suppliers, the San Francisco Public Utilities Commission (SFPUC) and the Santa Clara Valley Water District (SCVWD), to exchange information needed to develop Mountain View's UWMP. Information exchanged included current and projected water use, population and water demand data. Mountain View also worked with these water agencies to develop other documents which provided important water use and supply data for Mountain View's UWMP. These documents include:

- Interim Water Supply Allocation Plan
- SCVWD 2001 Groundwater Management Plan
- SFPUC Drought Contingency Plan
- SCVWD Water Infrastructure Reliability Report
- Maddaus Water Management End Use Model
- SCVWD UWMP
- SFPUC UWMP

Each of these documents is also referenced in the Bibliography.

Wastewater Agency Coordination

Wastewater data, discussed in Section 9, was obtained from the Palo Alto Regional Water Quality Control Plant. All of Mountain View's wastewater flows to this treatment facility.

Water Retailer Coordination

Neighboring water retailers, including the California Water Service Company (Cal Water), the City of Palo Alto and the City of Sunnyvale, were contacted to provide them with an opportunity to comment on this plan. A list of all water retailers notified by the City of Mountain View is included in Appendix A.

Other Relevant Public Agency Coordination

BAWSCA

The Bay Area Water Supply and Conservation Agency (BAWSCA) was created on May 27, 2003 to represent the interests of 28 retail water agencies, including Mountain View, in Alameda, Santa Clara and San Mateo counties who purchase water on a wholesale basis from the SFPUC. BAWSCA's role in the development of the 2005 UWMP is to coordinate with member agencies and the SFPUC to maintain consistency between the SFPUC UWMP and other member agencies plans.

Santa Clara County

As there are unincorporated areas within Mountain View's service area, the City provided the County of Santa Clara with an opportunity to comment on the draft plan. No comments had been received from Santa Clara County at the time this document was printed.

Table 1: Coordination with Appropriate Agencies

Agency Name	Participated in UWMP Development	Commented on Draft	Attended Public Meetings	Contacted for Assistance	Received Copy of Draft	Sent Notice of Intention to Adopt	Not Involved/ No Information
Water Wholesalers							
San Francisco Public Utilities Commission	X			X	X	X	
Santa Clara Valley Water District	X	X		X	X	X	
Wastewater Agencies							
Palo Alto Regional Water Quality Control Plant				X		X	
Water Retailers							
City of Palo Alto						X	
City of Sunnyvale						X	
California Water Service						X	
Other Agencies							
Bay Area Water Supply and Conservation Agency	X	X		X	X	X	
Santa Clara County						X	

Section 1.2: Internal Coordination

The City of Mountain View provides retail water to over 70,000 residents, businesses and institutions within its service area. For the UWMP to accurately reflect the complexity of the demands placed on the municipal water system, Public Works Department staff worked with pertinent City Departments to obtain water use data and other relevant information on current and planned projects/activities affecting demand. City departments consulted include:

- The Community Development Department (Responsible for current and advanced planning within the City)—Contacted for information regarding current and future demographics, planned private development projects and potential future land use changes.
- The Community Services Department (Responsible for parks and roadway landscape maintenance)—Provided information on planned public projects with significant irrigation needs.
- The Finance Department—Helped compile data relating to water use, revenue and cost projections.

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Section 1.3: Public Outreach and Plan Adoption

Mountain View provided the public with a variety of opportunities to participate in updating the 2005 UWMP. These opportunities are described in detail below.

Public Outreach

Prior to updating the UWMP, City staff provided a dedicated telephone number, email address and mail address for the public to submit comments or ask questions about the UWMP. To inform the public of the UWMP update process and the availability of these resources, the City placed ads in the Mountain View Voice and the Palo Alto Daily News. Copies of the ads and a list of publication dates are included in Appendix B.

Information on how to participate in the UWMP update process was also posted on the City's website and information was included in the annual water quality Consumer Confidence Report, which is sent to all of Mountain View's water customers in the spring of each year.

Public Hearings and Plan Availability

The City of Mountain View held a public hearing on the draft UWMP to solicit public comment on November 15, 2005. Public Hearing notices were published in the Mountain View Voice and Palo Alto Daily News on two separate occasions, two weeks prior to the meeting date. Notices were also posted on the City's website and on the City Hall bulletin board. Copies of the Public Hearing notices are included in Appendix C.

Copies of the draft plan were made available for public review and comment two weeks prior to the public hearing. Copies were available for review at the Mountain View Public Library and at Mountain View City Hall. An electronic copy of the plan was also made available on the City's website.

Plan Adoption

The City Council adopted the 2005 UWMP at the November 15, 2005 public hearing. A copy of the resolution adopting the 2005 UWMP is included as Appendix D. Following City Council approval of the 2005 UWMP, copies of the adopted plan were made available in the Mountain View Public Library and in Mountain View City Hall.

The adopted document was provided to the Department of Water Resources, the California State Library, Mountain View's wholesale water suppliers and BAWSCA.

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Section 2: Population, Climate and Land Use

Mountain View is nestled between the Santa Cruz Mountains and San Francisco Bay, just 10 miles north of San Jose and 35 miles south of San Francisco. Mountain View covers 12 square miles with an average elevation of 97 feet. The information below details Mountain View's population, land use and climate.

Population

Since publication of the 2000 UWMP, Mountain View's population has remained relatively stable with a current population of 73,100 residents. Future population growth is anticipated at roughly 3% over the next 25 years.

Table 2 below outlines current population and projected population growth over the next 25 years based on data from the Association of Bay Area Governments (ABAG). 2002 ABAG population data was used for the water demand projections in this UWMP, which were also developed with the SFPUC as part of their UWMP update process. However, the SFPUC, with concurrence from BAWSCA agencies, chose 2001 as a base year for water consumption as water usage was in the normal range due to weather and economic conditions.

Table 2: Population - Current and Projected

	2005	2010	2015	2020	2025	2030
Service Area Population	73,100	75,200	77,900	79,700	80,700	81,700

Source: ABAG Projections 2002

Land Use

The City is approximately 98 percent developed. The largest land use is housing, followed by public facilities and parks, and industrial and commercial development. Figure 1, at the end of this section, is a map indicating current land use and zoning within the City.

New development, primarily housing, will continue to replace existing residential and industrial buildings on underdeveloped lots, i.e., infill development. The density of the new residential dwellings, townhouses and small-lot, single-family homes is higher than dwellings they replace. While these dwellings are more water-efficient, higher-density lot development results in more water usage per acre of land.

In contrast, low water use office complexes have replaced most high water use manufacturing and industrial businesses within Mountain View's service area.

A large residential project currently being planned is the Mayfield Mall redevelopment. This project, currently under environmental review, proposes in the range of approximately 500 new residential units. Although this project is still in the initial planning stages, water demands for the project have been accounted for in the water demand analysis prepared for this UWMP.

Climate

Mountain View's semi-arid climate is temperate year round. The average annual temperature is 58.0 degrees and the average annual precipitation is 15.8 inches. During the hottest and driest months (June through September), residents and businesses irrigate more, causing Mountain View's water demand to increase. Rainfall is generally between December and March each year, reducing the need to irrigate landscaping during these months. Table 3 summarizes Mountain View's weather conditions over the last 30 years.

Table 3: Climate

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
Standard Monthly Average ETo*	1.83	2.20	3.42	4.84	5.61	6.26	6.47	6.22	4.84	3.66	2.36	1.83	49.54
Average Rainfall (inches)	3.23	2.88	2.22	0.99	0.37	0.08	0.02	0.05	0.18	0.71	1.83	2.72	15.78
Average Temperature (Fahrenheit)	48.0	51.3	53.6	56.6	60.6	64.9	66.5	66.6	65.5	60.6	53.5	48.1	58.0

Source: Standard ETo Woodside Weather station

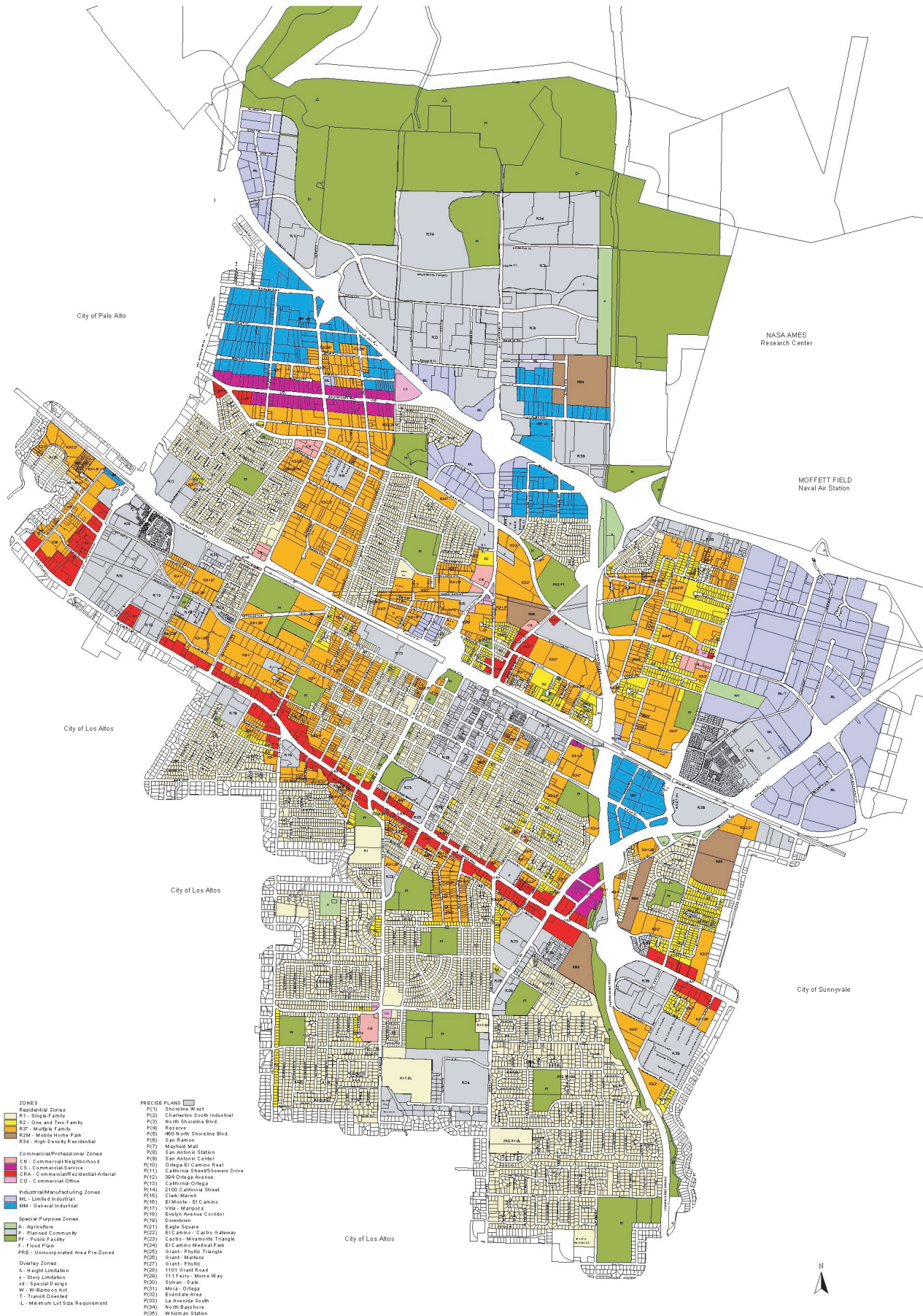
Temperature and rainfall from Palo Alto Weather Station

**ETo is defined in the Glossary*

FIGURE 1
MOUNTAIN VIEW ZONING MAP
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City of Mountain View Zoning Map



Latest Revision Date
June 2005